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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,144	11/29/2001	Douglas C. Watson	PA0372-US / 11269.37	3590

7590 04/18/2003  
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EXAMINER

DUDA, RINA I

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/997,144

Applicant(s)

WATSON ET AL.

Examiner

Rina I Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>1,2</u> . | 6) <input type="checkbox"/> Other: .  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 36, 37, 69, and 70 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 36 and 37 do not list any more structural elements that can be contained in the exposure apparatus recited in claim 35, they only recite an intended use of said apparatus. Furthermore, claims 69 and 70 do not recite any additional method steps used to make the exposure apparatus recited in claim 68, they only recite the intended use of said exposure apparatus.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1, 4, 10-13, 15-18, 20-26, 28-38, 41, 46-50, 52-59, and 61-70 are rejected under 35 U.S.C. 102(e) as being anticipated by Hazelton et al (US patent 6486941).

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Claim 1, 11, 12, 15, 16, 38, 47, 48, Hazelton et al teach a stage apparatus and exposure apparatus comprising a stage base 12; a stage mover 18 for moving a device table; a holder assembly 16 including a device holder 68 for holding a device such a wafer; and a holder mover 19 for moving the holder assembly, wherein a portion of the holder mover is disposed on the holder assembly 16.

Claims 4 and 41, Hazelton et al describe in column 3 lines 39-52 that the stage mover rotates the device holder relative to the stage base 12.

Claims 10, 13, and 46, in column 11 lines 9-67 and column 12 lines 27, Hazelton et al describe that the holder assembly rotates about a holder axis of rotation 138 and that the holder assembly has a center of gravity 134, said center of gravity is offset from the holder axis of rotation

Claims 17, 18, 23, 49, 50, 56, figures 6 and 7A of Hazelton et al show a holder assembly engaging the motor 19.

Claims 20 and 52, Hazelton et al describe stage 14 for supporting the device table, wherein motor 18 is secured to stage 14.

Claims 21, 24, 29, 31, 53, 55, 57, Hazelton et al describe reaction element 160 for inhibiting disturbance forces from the movers from being transferred to the moving stages.

Claims 22 and 54, Hazelton et al describe the movers secured to a frame 66.

Claims 25, 26, 28, 30, 32, 33, 58, 59, 61-66 Hazelton et al describe that the holder mover includes components 108 and 110, wherein element 108 is connected to the holder mover and secured to the device holder; and element 110 is secured to

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the device table, the stage holding the device table, the frame 66, and the reaction element 160, as shown in figure 1.

Claims 34 and 67, in column 9 lines 1-9, Hazelton et al describe that one of the mover components includes one or more magnet arrays and the other one includes one or more conductor arrays.

Claims 35 and 68, Hazelton et al describe that their stage assembly can be used in an exposure apparatus such as the one shown in figure 8.

Claims 36, 37, 69, and 70, Hazelton et al describe that the type of device being moved, manufactured, or inspected is a semiconductor wafer.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3, 9, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hazelton et al (US Patent 6486941).

The difference between the subject matter of claims 2, 3, and 9 and the teachings of Hazelton et al is that Hazelton et al do not specifically describe how much they would rotate the wafer. But, they describe in column 1 lines 51-67 and column 2 lines 1-51 how they want to create an exposure apparatus capable of moving with complete freedom around the x-axis, the y-axis, and the z-axis in order to minimize alignment mistakes between the reticle and the wafer. Therefore, it would have been

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obvious to one person of ordinary skill in the art to choose to rotate the device holder 25 degrees, 180 degrees, or any other angle as long as the precise and desired position of the exposure apparatus was accomplished.

6. Claims 5-8, 14, 19, 27, 42-45, 51, 60, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hazelton et al (US patent 6486941) and Kosugi et al (US patent 4775877).

The difference between the teachings of Hazelton et al and claims 5-8, 14, 19, 27, 42-45, 51, and 60 is that Hazelton et al do not teach a carrier for holding the device table and a stop device for keeping the device from rotating.

However, Kosugi et al describe an apparatus for processing a plate-like device comprising a carrier placed between the device holder and the device table 6Z and a stop device HC for holding the device (wafer) in place, wherein the device holder rotates relative to the device table.

Therefore, it would have been obvious to one person of ordinary skill in the art at the time of the invention to place a wafer/device on a carrier, wherein the carrier is located between the device table and the device holder, since said carrier will facilitate the transferring/movement of the device. Furthermore, the use of a stop device would allow accurate position of the workpiece.

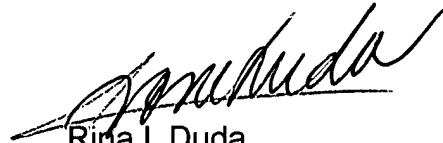
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The documents cited teach similar stage assemblies used in different exposure apparatuses.

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8: Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rina Duda whose telephone number is (703) 305-0722.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached at (703) 308-3370. The fax number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Rina I. Duda  
Patent Examiner

RD  
April 16, 2003